AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An apparatus for enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having original pixel values corresponding to the image, comprising:

a vertical area existence determination unit which determines whether or not an edge included in an input pixel selected from the plurality of pixels belongs to a vertical area;

a slant line possibility determination unit which determines whether or not there is a possibility of the edge forming a slant line when the edge is determined to not belong to the vertical area;

a direction determination unit which determines a direction of the slant line when the edge is determined to possibly form the slant line; and

an interpolation unit which calculates an interpolated pixel value for the input pixel based on the determination results provided by the vertical area existence determination unit, the slant line possibility determination unit, and the direction determination unit.

2. (Original) The apparatus of claim 1 further comprising an adjusted pixel value calculation unit which compares the interpolated pixel value with an original input pixel value and adjusts the interpolated pixel value based on the comparison result.

3. (Original) The apparatus of claim 1, wherein the vertical area existence determination unit determines that the input pixel exists in the vertical area when a difference (a) between values of upper and lower pixels, vertically adjacent to the input pixel, is smaller than a predetermined threshold value and determines that the input pixel exists in the slant line area when the difference (a) is greater than the predetermined threshold value.

4. (Original) The apparatus of claim 1, wherein the slant line possibility determination unit determines that the edge included in the input pixel may have a slant-line shape when a predetermined number of values among differences between values of two pixels, arranged at each side of the upper pixel, and values of their vertically corresponding pixels are not smaller than the predetermined threshold value and are obtained using two pixels located at one or the other side of the upper pixel and their diagonally corresponding pixels.

5. (Currently amended) The apparatus of claim 1, wherein:

an upper pixel is arranged above in an upper position vertically adjacent to the input pixel,

a lower pixel is arranged in a lower position vertically adjacent to the input pixel,

a first pixel pair is horizontally arranged at one side of the upper pixel,

a second pixel pair is horizontally arranged at the opposite side of the upper pixel,

a third pixel pair is horizontally arranged at one side of the lower pixel and, with respect to the input pixel, arranged diagonally to the first pixel pair, and

a fourth pixel pair is horizontally arranged at the opposite side of the lower pixel, with respect to the input pixel, arranged diagonally to the second pixel pair, and

the slant line possibility determination unit determines that the edge included in the input pixel may have a slant-line shape when:

differences between values of each of the first pixel pair ~~two pixels arranged at one side of the upper pixel,~~ and values of ~~their diagonally corresponding pixels~~ a diagonally corresponding pixel of the third pixel pair, are smaller than a difference [[(a)]] between the upper pixel and the lower pixel ~~pixels that are vertically adjacent to the input pixel~~, and

the differences between values of each of the first pixel pair ~~two pixels arranged at one side of the upper pixel,~~ and values of ~~their diagonally corresponding~~

~~pixels~~ a diagonally corresponding pixel of the third pixel pair, are also smaller than differences between values each of the second pixel pair ~~of two pixels arranged at the other side of the upper pixel,~~ and values of the respective pixels of the fourth pixel pair ~~their diagonally corresponding pixels~~.

6. (Original) The apparatus of claim 1, wherein the direction determination unit comprises:

a direction estimator which estimates the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

a precision determiner which determines precision of the estimation.

7. (Previously presented) The apparatus of claim 6, wherein:

(a) represents a difference between the values of two pixels vertically adjacent to the input pixel,

(b) represents a difference between the values of two pixels diagonally adjacent to the input pixel,

(c) represents a difference between the values of the other two pixels diagonally adjacent to the input pixel, and

the direction estimator estimates the slant line to extend along a direction indicated by a smaller value between (b) and (c), when:

a difference (b – c) is smaller than or greater than 0, and

$|b - c|$ and either $|b - a|$ or $|c - a|$ are greater than a predetermined threshold value.

8. (Previously presented) The apparatus of claim 6, wherein:

(a) represents a difference between the values of an upper pixel and a lower pixel arranged vertically adjacent to the input pixel,

(c) and (E) represent differences between values of two pixels arranged at one side of the upper pixel and values of their diagonally corresponding pixels,

(b) and (F) represent each of the respective differences between values of two pixels arranged at the other side of the upper pixel and values of their diagonally corresponding pixels, and

the direction estimator estimates the slant line to extend along a direction indicated by a minimum among (b), (c), (E), and (F) when:

a difference (a – c) or (a – E) or a difference (a – b) or (a – F) is greater than a predetermined threshold value,

(c) and (E) are greater than or smaller than (b) and (F), respectively, and

$|c - E|$ or $|b - F|$ is not greater than a predetermined threshold value.

9. (Previously presented) The apparatus of claim 6, wherein the precision determiner determines the estimation of the direction of the slant line to be precise when:

the direction estimator estimates the slant line to be tilted rightward or leftward,

the difference (a) between the values (f) and (k) of the upper and lower pixels, a difference between (k) and a value (g) of an upper right pixel, a difference between (g) and a value (j) of a lower left pixel, and

a difference between (f) and (j) are not smaller than a predetermined threshold value.

10. (Original) The apparatus of claim 1, wherein the interpolation unit obtains the interpolated pixel value using values of upper three cells and lower three pixels with respect to the input pixel, which belong to the same row as the input pixel but different columns from one another, when the edge included in the input pixel is determined to belong to the vertical area, and obtains the interpolated pixel value using the values of four pixels diagonally adjacent to the input pixel when the edge included in the input pixel is determined to belong to the slant line area.

11. (Previously presented) The apparatus of claim 2, wherein:

the adjusted pixel value calculation unit designates the original input pixel value as an output pixel value when a difference between the interpolated pixel value and the original input pixel value is not greater than a predetermined threshold value, and

designates the interpolated pixel value as the output pixel value when the difference between the interpolated pixel value and the original input pixel value is greater than the predetermined threshold value.

12. (Withdrawn) An apparatus for enhancing the quality of reproduced images, comprising:

a pixel-to-be-interpolated determination unit which determines whether or not an interlaced-scanned input pixel is the one to be interpolated;

an existence area determination unit which determines whether or not an edge included in the input pixel belongs to a slant line area when the input pixel is determined to be the one to be interpolated; and

an interpolation unit which obtains an interpolated pixel value for the input pixel based on the determination result, provided by the existence area determination unit, by using values of pixels adjacent to the input pixel and designates the interpolated pixel value as an output pixel value.

13. (Withdrawn) The apparatus of claim 12 further comprising an adjusted pixel value calculation unit which compares the interpolated pixel value with an original input pixel value and obtains an adjusted pixel value for an output pixel corresponding to the input pixel based on the comparison result.

14. (Withdrawn) The apparatus of claim 12, wherein the pixel-to-be-interpolated determination unit comprises:

an existence field determination unit which determines whether the input pixel belongs to an odd field or an even field; and

a field selection processing unit which classifies the input pixel as the one to be interpolated when the input pixel is determined to belong to an odd field (or an even field) and designates the original input pixel value as the output pixel value when the input pixel is determined to belong to an even field (or an odd field).

15. (Withdrawn) The apparatus of claim 12, wherein the existence area determination unit comprises:

a vertical area existence determination unit which determines whether or not an edge included in an input pixel belongs to a vertical area;

a slant line possibility determination unit which determines whether or not there is a possibility of the edge forming a slant line when the edge is determined to not belong to the vertical area; and

a direction determination unit which determines a direction of the slant line when the edge is determined to possibly form the slant line; and

16. (Withdrawn) The apparatus of claim 15, wherein the vertical area existence determination unit determines that the input pixel exists in the vertical area when a difference a between values of upper and lower pixels with respect to the input pixel, which respectively belong to two adjacent even fields with an odd field that the input pixel belongs to therebetween, is smaller than a predetermined threshold value and determines that the input pixel may possibly exist in the slant line area when the difference a is greater than the predetermined threshold value.

17. (Withdrawn) The apparatus of claim 15, wherein the slant line possibility determination unit determines that the edge included in the input pixel may have a slant-line shape when a predetermined number of values among differences between values of two pixels, arranged at each side of the upper pixel, and values of their vertically corresponding pixels are not smaller than the predetermined threshold value and are obtained using two pixels located at one or the other side of the upper pixel and their diagonally corresponding pixels.

18. (Withdrawn) The apparatus of claim 15, wherein the slant line possibility determination unit determines that the edge included in the input pixel may have a slant-line shape when differences between values of two pixels, arranged at one side of the upper pixel, and values of their diagonally corresponding pixels are smaller than the difference (a) between the upper and lower pixels and are also smaller than differences between values of two pixels, arranged at the other side of the upper pixel, and values of their diagonally corresponding pixels.

19. (Withdrawn) The apparatus of claim 15, wherein the direction determination unit comprises:

a direction estimator which estimates the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

a precision determiner which determines precision of the estimation.

20. (Withdrawn) The apparatus of claim 19, wherein when a difference (b – c) between a difference (b) between the values of two pixels diagonally adjacent to the input pixel and a difference (c) between the values of the other two pixels diagonally adjacent to the input pixel is smaller than or greater than 0, $|b - c|$ and $|b - a|$ (or $|c - a|$) are greater than a predetermined threshold value, the direction estimator estimates the slant line to extend along a direction indicated by a smaller value between b and c.

21. (Withdrawn) The apparatus of claim 19, wherein when a difference (a – c and a – E) between a and each of the differences c and E between values of two pixels, arranged at one side of the upper pixel, and values of their diagonally corresponding pixels or a difference (a – b and a – F) between a and each of the differences b and F between values of two pixels, arranged at the other side of the upper pixel, and values of their diagonally corresponding pixels is greater than a predetermined threshold value, c and E are greater than or smaller than b and F, respectively, and $|c - b|$ or $|E - F|$ is not greater than a predetermined threshold value, the direction estimator estimates the slant line to extend along a direction indicated by a minimum among b, c, E, and F.

22. (Withdrawn) The apparatus of claim 19, wherein the precision determiner determines the estimation of the direction of the slant line to be precise when the direction estimator estimates the slant line to be tilted rightward (or leftward), the difference a between the values f and k and of the upper and lower pixels, a difference between k and a value g of an upper right pixel, a difference between g and a value j of a lower left pixel, and a difference between f and j are not smaller than a predetermined threshold value.

23. (Withdrawn) The apparatus of claim 12, wherein the interpolation unit obtains the interpolated pixel value using values of upper three cells and lower three pixels with respect to the input pixel, which belong to the same row of the odd field that the input pixel belongs to but different even fields from one another, when the edge included in the input pixel is determined to belong to the vertical area, and obtains the interpolated pixel value using the values of four pixels diagonally adjacent to the input pixel when the edge included in the input pixel is determined to belong to the slant line area.

24. (Withdrawn) The apparatus of claim 13, wherein the adjusted pixel value calculation unit designates the original input pixel value as an output pixel value when a difference between the interpolated pixel value and the original input pixel value is not greater than a predetermined threshold value and designates the interpolated pixel value as the output pixel value when the difference between the interpolated pixel value and the original input pixel value is greater than the predetermined threshold value.

25. (Currently amended) An apparatus for enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having original pixel values corresponding to the image, comprising:

a slant line possibility determination unit which determines that an edge included in an input pixel selected from the plurality of pixels may have a slant-line shape when differences between values of two pixels, arranged at each side of an upper pixel, and values of their vertically corresponding pixels are smaller than a difference between upper and lower pixels with respect to the input pixel and are obtained using two pixels, located at one side of the upper pixel, and values of their vertically corresponding pixels; and

a direction determination unit which determines a direction of a slant line representing the edge included in the input pixel.

26. (Original) The apparatus of claim 25, wherein the direction determination unit comprises:

a direction estimator which estimates the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

a precision determiner which determines precision of the estimation.

27. (Previously presented) The apparatus of claim 26, wherein:

(a) represents a difference between the values of two pixels vertically adjacent to the input pixel,

(b) represents a difference between the values of two pixels diagonally adjacent to the input pixel,

(c) represents a difference between the values of the other two pixels diagonally adjacent to the input pixel, and

the direction estimator estimates the slant line to extend along a direction indicated by a smaller value between (b) and (c), when:

a difference (b – c) is smaller than or greater than 0, and

$|b - c|$ and either $|b - a|$ or $|c - a|$ are greater than a predetermined threshold value.

28. (Previously presented) The apparatus of claim 26, wherein the precision determiner determines the estimation of the direction of the slant line to be precise when:

the direction estimator estimates the slant line to be tilted rightward or leftward,

the difference a between the values (f) and (k) and of the upper and lower pixels, a difference between k and a value g of an upper right pixel, a difference between (g) and a value (j) of a lower left pixel, and

a difference between (f) and (j) are not smaller than a predetermined threshold value.

29. (Previously presented) An apparatus for enhancing the quality of reproduced images, comprising:

a slant line possibility determination unit which determines that an edge included in an input pixel may have a slant-line shape when differences between values of two pixels, arranged at one side of an upper pixel, and values of their diagonally corresponding pixels are smaller than differences between values of two pixels located at the other side of the upper pixel and values of their diagonally corresponding pixels; and

a direction determination unit which determines a direction of a slant line representing the edge included in the input pixel.

30. (Original) The apparatus of claim 29, wherein the direction determination unit comprises:

a direction estimator which estimates the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

a precision determiner which determines precision of the estimation.

31. (Previously presented) The apparatus of claim 30, wherein:

(a) represents a difference between the values of an upper pixel and a lower pixel arranged vertically adjacent to the input pixel,

(c) and (E) represent differences between values of two pixels, arranged at one side of the upper pixel and values of their diagonally corresponding pixels,

(b) and (F) represent each of the respective differences between values of two pixels arranged at the other side of the upper pixel and values of their diagonally corresponding pixels, and

the direction estimator estimates the slant line to extend along a direction indicated by a minimum among (b), (c), (E), and (F) when:

a difference (a – c) and (a – E) or a difference (a – b) and (a – F) is greater than a predetermined threshold value,

(c) and (E) are greater than or smaller than (b) and (F), respectively, and

$|c - b|$ or $|E - F|$ is not greater than a predetermined threshold value.

32. (Previously presented) The apparatus of claim 30, wherein the precision determiner determines the estimation of the direction of the slant line to be precise when the direction estimator estimates the slant line to be tilted rightward or leftward, the difference a between the values (f) and (k) and of the upper and lower pixels, a difference between (k) and a value (g) of an upper right pixel, a difference between (g) and a value (j) of a lower left pixel, and a difference between (f) and (j) are not smaller than a predetermined threshold value.

33. (Currently amended) An apparatus for enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having original pixel values corresponding to the image, comprising:

an interpolation unit configured to obtain an interpolated pixel value using values of upper three cells and lower three pixels with respect to an input pixel selected from the plurality of pixels, which belong to the same row of an odd field that the input pixel belongs to but different even fields from one another, when an edge included in the input pixel is determined to belong to a vertical area[[,]]; and

obtain the interpolated pixel value for the input pixel using values of four pixels diagonally adjacent to the input pixel when the edge included in the input pixel is determined to belong to a slant line area.

34. (Original) The apparatus of claim 33 further comprising an adjusted pixel value calculation unit which compares the interpolated pixel value with an original input pixel value and adjusts the interpolated pixel value based on the comparison result.

35. (Original) The apparatus of claim 34, wherein the adjusted pixel value calculation unit designates the original input pixel value as an output pixel value when a difference between the interpolated pixel value and the original input pixel value is not greater than a predetermined threshold value and designates the interpolated pixel value as the output pixel value when the difference between the interpolated pixel value and the original input pixel value is greater than the predetermined threshold value.

36. (Currently amended) A method of enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having original pixel values corresponding to the image, comprising:

(step a) determining whether or not an edge included in an input pixel selected from the plurality of pixels belongs to a vertical area;

(step b) determining whether or not there is a possibility of the edge forming a slant line when the edge is determined to not belong to the vertical area;

(step c) determining a direction of the slant line when the edge is determined to possibly form the slant line; and

(step d) calculating an interpolated pixel value for the input pixel based on the determination results, obtained in (a), (b), and (c).

37. (Previously presented) The method of claim 36 further comprising:
(step e) comparing the interpolated pixel value with an original input pixel value and adjusting the interpolated pixel value based on the comparison result.

38. (Previously presented) The method of claim 36, wherein in (step a), the input pixel is determined to exist in the vertical area when a difference (a) between values of upper and lower pixels with respect to the input pixel is smaller than a predetermined threshold value and is determined to exist in the slant line area when the difference (a) is greater than the predetermined threshold value.

39. (Previously presented) The method of claim 36, wherein in (step b), the edge included in the input pixel is determined to have a slant-line shape when a predetermined number of values among differences between values of two pixels, arranged at each side of an upper pixel, and values of their vertically corresponding pixels are not smaller than the

predetermined threshold value and are obtained using two pixels located at one or the other side of the upper pixel and their diagonally corresponding pixels.

40. (Previously presented) The method of claim 36, wherein in (step b), the edge included in the input pixel is determined to have a slant-line shape when differences between values of two pixels, arranged at one side of an upper pixel, and values of their diagonally corresponding pixels are smaller than the difference (a) between the upper and lower pixels and are also smaller than differences between values of two pixels, arranged at the other side of the upper pixel, and values of their diagonally corresponding pixels.

41. (Previously presented) The method of claim 36, wherein (step c) includes:

(step f) estimating the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

(step g) determining precision of the estimation.

42. (Previously presented) The method of claim 41, wherein in (step f):

(a) represents a difference between the values of two pixels vertically adjacent to the input pixel,

(b) represents a difference between the values of two pixels diagonally adjacent to the input pixel,

(c) represents a difference between the values of the other two pixels diagonally adjacent to the input pixel, and

the direction estimator estimates the slant line to extend along a direction indicated by a smaller value between (b) and (c), when:

a difference $(b - c)$ is smaller than or greater than 0, and $|b - c|$ and either $|b - a|$ or $|c - a|$ are greater than a predetermined threshold value.

43. (Previously presented) The method of claim 41, wherein in (step f):

(a) represents a difference between the values of an upper pixel and a lower pixel arranged vertically adjacent to the input pixel,

(c) and (E) represent differences between values of two pixels arranged at one side of the upper pixel and values of their diagonally corresponding pixels,

(b) and (F) represent each of the respective differences between values of two pixels arranged at the other side of the upper pixel and values of their diagonally corresponding pixels, and

the direction estimator estimates the slant line to extend along a direction indicated by a minimum among (b), (c), and (E), and (F) when:

a difference (a – c) or (a – E) or a difference (a – b) or (a – F) is greater than a predetermined threshold value,

(c) and (E) are greater than or smaller than (b) and (F), respectively, and

$|c - b|$ or $|E - F|$ is not greater than a predetermined threshold value.

44. (Previously presented) The method of claim 41, wherein in (step g), the estimation of the direction of the slant line is determined to be precise when:

the slant line is estimated to be tilted rightward or leftward,

the difference (a) between the values (f) and (k) of the upper and lower pixels, a difference between (k) and a value (g) of an upper right pixel, a difference between (g) and a value (j) of a lower left pixel, and

a difference between (f) and (j) are not smaller than a predetermined threshold value.

45. (Previously presented) The method of claim 36, wherein in (step d):

the interpolated pixel value is obtained using values of upper three cells and lower three pixels with respect to the input pixel, which belong to the same row as the input pixel

but different columns from one another, when the edge included in the input pixel is determined to belong to the vertical area, or the interpolated pixel value is obtained using the values of four pixels diagonally adjacent to the input pixel when the edge included in the input pixel is determined to belong to the slant line area.

46. (Previously presented) The method of claim 37, wherein in (step e), the original input pixel value is designated as an output pixel value when a difference between the interpolated pixel value and the original input pixel value is not greater than a predetermined threshold value, or the interpolated pixel value is designated as the output pixel value when the difference between the interpolated pixel value and the original input pixel value is greater than the predetermined threshold value.

47. (Withdrawn) A method of enhancing the quality of reproduced images, comprising:

(h) determinining whether or not an interlaced-scanned input pixel is the one to be interpolated;

(i) determining whether or not an edge included in the input pixel belongs to a slant line area when the input pixel is determined to be the one to be interpolated; and

(j) obtaining an interpolated pixel value for the input pixel based on the determination result, obtained in (i), by using values of pixels adjacent to the input pixel and designating the interpolated pixel value as an output pixel value.

48. (Withdrawn) he method of claim 47 further comprising (k) comparing the interpolated pixel value with an original input pixel value and obtaining an adjusted pixel value for an output pixel corresponding to the input pixel based on the comparison result.

49. (Withdrawn) The method of claim 47, wherein (h) comprises:

(l) determining whether the input pixel belongs to an odd field or an even field; and

(m) classifying the input pixel as the one to be interpolated when the input pixel is determined to belong to an odd field (or an even field) and designating the original input pixel value as the output pixel value when the input pixel is determined to belong to an even field (or an odd field).

50. (Withdrawn) The method of claim 47, wherein (i) comprises:

(n) determining whether or not an edge included in an input pixel belongs to a vertical area;

(o) determining whether or not there is a possibility of the edge forming a slant line when the edge is determined to not belong to the vertical area; and

(p) determining a direction of the slant line when the edge is determined to possibly form the slant line; and

51. (Withdrawn) The method of claim 50, wherein in (n), the input pixel is determined to exist in the vertical area when a difference a between values f and k of upper and lower pixels with respect to the input pixel, which respectively belong to two adjacent even fields with an odd field that the input pixel belongs to therebetween, is smaller than a predetermined threshold value, or the input pixel is determined to possibly exist in the slant line area when the difference a is greater than the predetermined threshold value.

52. (Withdrawn) The method of claim 50, wherein in (o), the edge included in the input pixel is determined to possibly have a slant-line shape when a predetermined number of values among differences between values of two pixels, arranged at each side of the upper pixel, and values of their vertically corresponding pixels are not smaller than the predetermined threshold value and are obtained using two pixels located at one or the other side of the upper pixel and their diagonally corresponding pixels.

53. (Withdrawn) The method of claim 50, wherein in (o), the edge included in the input pixel is determined to possibly have a slant-line shape when differences between values of two pixels, arranged at one side of the upper pixel, and values of their diagonally corresponding pixels are smaller than the difference a between the upper and lower pixels and are also smaller than differences between values of two pixels, arranged at the other side of the upper pixel, and values of their diagonally corresponding pixels.

54. (Withdrawn) The method of claim 50, wherein (o) comprises:

(q) estimating the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

(r) determining precision of the estimation.

55. (Withdrawn) The method of claim 54, wherein when a difference between a difference b between the values of two pixels diagonally adjacent to the input pixel and a difference c between the values of the other two pixels diagonally adjacent to the input pixel is smaller than or greater than 0, $|b - c|$ and $|b - a|$ (or $|c - a|$) are greater than a predetermined threshold value, the slant line is determined to extend along a direction indicated by a smaller value between b and c.

56. (Withdrawn) The method of claim 54, wherein in (q), when a difference (a – c and a – E) between a and each of the differences c and E between values of two pixels, arranged at one side of the upper pixel, and values of their diagonally corresponding pixels or a difference (a – b and a – F) between a and each of the differences b and F between values of two pixels, arranged at the other side of the upper pixel, and values of their diagonally corresponding pixels is greater than a predetermined threshold value, c and E are greater than or smaller than b and F, respectively, and $|c - b|$ or $|E - F|$ is not greater than a

predetermined threshold value, the slant line is determined to extend along a direction indicated by a minimum among b, c, E, and F.

57. (Withdrawn) The method of claim 54, wherein in (r), the estimation of the direction of the slant line is determined to be precise when the slant line is estimated to be tilted rightward (or leftward), the difference a between the values f and k and of the upper and lower pixels, a difference between k and a value g of an upper right pixel, a difference between g and a value j of a lower left pixel, and a difference between f and j are not smaller than a predetermined threshold value.

58. (Withdrawn) The method of claim 47, wherein in (j), the interpolated pixel value is obtained using values of upper three cells and lower three pixels with respect to the input pixel, which belong to the same row of the odd field that the input pixel belongs to but different even fields from one another, when the edge included in the input pixel is determined to belong to the vertical area, or the interpolated pixel value is obtained using the values of four pixels diagonally adjacent to the input pixel when the edge included in the input pixel is determined to belong to the slant line area.

59. (Withdrawn) The method of claim 48, wherein in (k), the original input pixel value is designated as an output pixel value when a difference between the interpolated pixel value and the original input pixel value is not greater than a predetermined threshold value, or the interpolated pixel value is designated as the output pixel value when the difference between the interpolated pixel value and the original input pixel value is greater than the predetermined threshold value.

60. (Currently amended) A method of enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having original pixel values original pixel values corresponding to the image, comprising:

(step s) determining that an edge included in an input pixel selected from the plurality of pixels may have a slant-line shape when differences between values of two pixels, arranged at each side of an upper pixel, and values of their vertically corresponding pixels are smaller than a difference between upper and lower pixels with respect to the input pixel and are obtained using two pixels, located at one side of the upper pixel, and values of their vertically corresponding pixels; and

(step t) determining a direction of a slant line representing the edge included in the input pixel.

61. (Currently amended) A method of enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having corresponding pixel values, comprising:

(step u) determining that an edge included in an input pixel selected from the plurality of pixels may have a slant-line shape when differences between values of two pixels, arranged at one side of an upper pixel, and values of their diagonally corresponding pixels are smaller than differences between values of two pixels located at the other side of the upper pixel and values of their diagonally corresponding pixels; and

(step v) determining a direction of a slant line representing the edge included in the input pixel.

62. (Previously presented) The method of claim 60, wherein (step t) includes:

(step w) estimating the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

(step x) determining precision of the estimation.

63. (Previously presented) The method of claim 61, wherein (step v) includes:

(step y) estimating the direction of the slant line when it is determined that there is a possibility of the edge having a slant-line shape; and

(step z) determining precision of the estimation.

64. (Previously presented) The method of claim 62, wherein (step w):

(a) represents a difference between the values of two pixels vertically adjacent to the input pixel,

(b) represents a difference between the values of two pixels diagonally adjacent to the input pixel,

(c) represents a difference between the values of the other two pixels diagonally adjacent to the input pixel, and

the slant line is estimated to extend along a direction indicated by smaller value between b and c, when:

a difference (b – c) is smaller than or greater than 0, and

$|b - c|$ and either $|b - a|$ or $|c - a|$ are greater than a predetermined threshold value.

65. (Previously presented) The method of claim 63, wherein in (step y):

(a) represents a difference between the values of an upper pixel and a lower pixel arranged vertically adjacent to the input pixel,

(c) and (E) represent differences between values of two pixels, arranged at one side of the upper pixel and values of their diagonally corresponding pixels,

(b) and (F) represent each of the respective differences between values of two pixels arranged at the other side of the upper pixel and values of their diagonally corresponding pixels, and

the slant line is determined to extend along a direction indicated by a minimum among (b), (c), (E), and (F), when:

a difference (a – c) or (a – E) or a difference (a – b) or (a – F) is greater than a predetermined threshold value,

(c) and (E) are greater than or smaller than (b) and (F), respectively, and

$|c - b|$ or $|E - F|$ is not greater than a predetermined threshold value.

66. (Previously presented) The method of claim 62, wherein in (step z), the estimation of the direction of the slant line is determined to be precise when:

the direction estimator estimates the slant line to be tilted rightward or leftward,

the difference a between the values (f) and (k) and of the upper and lower pixels, a difference between (k) and a value (g) of an upper right pixel, a difference between (g) and a value (j) of a lower left pixel, and

a difference between (f) and (j) are not smaller than a predetermined threshold value.

67. (Previously presented) The method of claim 63, wherein in (step z), the estimation of the direction of the slant line is determined to be precise when:

the direction estimator estimates the slant line to be tilted rightward or leftward,

the difference a between the values (f) and (k) and of the upper and lower pixels, a difference between (k) and a value (g) of an upper right pixel, a difference between (g) and a value (j) of a lower left pixel, and

a difference between (f) and (j) are not smaller than a predetermined threshold value.

68. (Currently amended) A method of enhancing the quality of a reproduced ~~images~~ image comprised of a plurality of pixels having original pixel values corresponding to the image, comprising:

obtaining an interpolated pixel value using values of upper three cells and lower three pixels with respect to an input pixel selected from the plurality of pixels, which belong to the same row of an odd field that the input pixel belongs to but different even fields from one another, when an edge included in the input pixel is determined to belong to a vertical area[[,]]; and

obtaining the interpolated pixel value using values of four pixels diagonally adjacent to the input pixel when the edge included in the input pixel is determined to belong to a slant line area.

69. (Previously presented) The method of claim 68 further comprising:

comparing the interpolated pixel value with an original input pixel value and adjusting the interpolated pixel value based on the comparison result.

70. (Original) The method of claim 69, wherein the original input pixel value is designated as an output pixel value when a difference between the interpolated pixel value and the original input pixel value is not greater than a predetermined threshold value, or the interpolated pixel value is designated as the output pixel value when the difference between the interpolated pixel value and the original input pixel value is greater than the predetermined threshold value.

71. (Currently amended) A tangible computer-readable recording medium on which computer-readable program codes enabling the method of claim 36 are recorded.

72. (Withdrawn) A computer-readable recording medium on which computer-readable program codes enabling the method of claim 47 are recorded.

73. (Previously presented) A tangible computer-readable recording medium on which computer-readable program codes enabling the method of claim 60 are recorded.

74. (Previously presented) A tangible computer-readable recording medium on which computer-readable program codes enabling the method of claim 61 are recorded.

75. (Previously presented) A tangible computer-readable recording medium on which computer-readable program codes enabling the method of claim 68 are recorded.